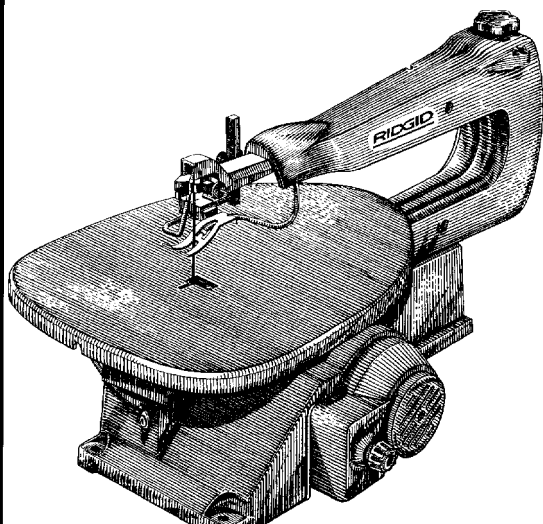


SS1650 OWNERS MANUAL



16 INCH VARIABLE SPEED SCROLL SAW

- **Assembly**
- **Operation**
- **Repair Parts**

**QUESTIONS OR COMMENTS?
CALL 1-800-4-RIDGID
www.ridgidwoodworking.com**

**For Your Safety:
Read all instructions carefully**

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Safety Instructions for Scroll Saw

Safety is a combination of common sense, staying alert and knowing how

your scroll saw works. Read this manual to understand this saw.

Safety Signal Words

DANGER: means if the safety information is not followed someone **will** be seriously injured or killed.

WARNING: means if the safety information is not followed someone **could** be

seriously injured or killed.

CAUTION: means if the safety information is not followed someone **may** be injured.

Before Using The Saw

WARNING: To reduce the risk of mistakes that could cause serious permanent injury, do not plug the saw in until the following steps are completed.

- Completely assemble and align saw (see "Assembly and Alignment" sections within).

- Learn the use and function of the speed control ON-OFF knob, bevel lock knob, blade holders, blade support, hold down, tension knob, and blade guard. (See “Getting to Know Your Scroll Saw” section.)
- Review and understand all safety instructions and operating procedures in this manual.
- Review the maintenance methods for this saw. (See “Maintenance” section.)
- Read the warning label below, which is found on the base of the saw.

⚠ WARNING	⚠ ADVERTENCIA	⚠ AVERTISSEMENT
<ol style="list-style-type: none"> 1. Read manual before using saw. 2. Wear safety goggles that meet ANSI Z87.1 or in Canada CSA Z94.3-1988 standards. 3. Be sure blade is installed with teeth pointing down. 4. Properly adjust hold-down. 5. Keep fingers away from the moving blade. 6. Do not remove jammed cut off pieces until blade has stopped. 7. Maintain proper adjustment of blade tension. 8. Hold workpiece firmly against the table. 9. Turn power off and wait for blade to stop before adjusting or repairing. 10. Do not expose to rain or use in damp locations. 	<ol style="list-style-type: none"> 1. Lea el manual antes de usar la sierra. 2. Use gafas de seguridad que cumplan con las normas ANSI Z87.1 o, en el Canadá, las normas CSA Z94.3-1988. 3. Asegúrese de que la cuchilla está instalada con los dientes apuntando hacia abajo. 4. Ajuste el sujetador apropiadamente. 5. Mantenga los dedos lejos de la cuchilla en movimiento. 6. No quite piezas cortadas atascadas hasta que la cuchilla se haya detenido. 7. Mantenga el ajuste apropiado de la tensión de la cuchilla. 8. Sujete la pieza a cortar firmemente en la mesa. 9. Apague el interruptor y espere a que la cuchilla se detenga antes de ajustar o darle servicio a la máquina. 10. No exponer a la lluvia ni usar en lugares húmedos. 	<ol style="list-style-type: none"> 1. Lisez le manuel avant d'utiliser la scie. 2. Portez des lunettes de protection conformes à la norme CSA Z94.3-1988. 3. Installez la lame avec la pointe des dents orientée vers le bas. 4. Ajustez soigneusement l'appui. 5. Gardez les doigts à l'écart de la lame de mouvement. 6. Ne retirez pas de rebettes coincées alors que la lame est en mouvement. 7. Maintenez la lame à la tension adéquate. 8. Tenez la pièce solidement contre la table. 9. Coupez l'alimentation et attendez que la lame s'arrête avant d'effectuer des réglages ou des réparations. 10. N'exposez pas l'outil à la pluie et ne l'utilisez pas dans des endroits humides.



TSOL
285A
E22417

Covered by U.S. Patent No. 5, 684,388; Others Pending

500-1700 RPM 1 PHASE 120 VOLT AC ONLY 60 HZ 1.2 AMP

When Installing or Moving The Saw

To Reduce the Risk of Dangerous Environment. Use the saw in a dry indoor place, protected from rain. Keep work area well lighted.

To reduce the risk of injury from unexpected saw movement:

- Turn saw off and unplug cord before moving the saw.
- Place the saw on a firm level surface where there is plenty of room for handling and properly supporting the work-piece.
- Support the saw so the table is level and the saw does not rock.
- Bolt the saw to the work surface if it tends to slip, walk, or slide during operations like cutting long heavy boards, or when using an auxiliary table.

- **Never Stand On Tool.** Serious injury could occur if the tool tips or you accidentally hit the cutting tool. Do not store any item above or near the tool where anyone might stand on the scroll saw to reach that item.

To reduce the risk of injury or death from electrical shock:

- Ground the saw. This saw has an approved 3 conductor cord and a 3-prong grounding type plug. Use only 3-wire, grounded outlets rated 120 volts, 15 amperes (amps). The green conductor in the cord is the grounding wire. To reduce the risk of electrocution, NEVER connect the green wire to a live terminal.
- Make sure your fingers do not touch the plug's metal prongs when plugging or unplugging the saw.

Before Each Use

Inspect your saw.

Disconnect The Saw. To reduce the risk of injury from accidental starting, unplug the saw, turn the switch off and lock out the switch before changing the setup, removing covers, guards or blade.

Check For Damaged Parts. Check for:

- Alignment of moving parts.
- Binding of moving parts.

- Broken parts.
- Stable mounting.
- Any other conditions that may affect the way the saw works.

If any part is missing, bent or broken in any way, or any electrical parts don't work properly, turn the saw off and unplug the saw. **Replace** damaged, missing or failed parts before using the saw again. **Keep Guard In Place** and in working order.

Safety Instructions for Scroll Saw (continued)

Maintain Tools with Care. Keep the saw clean for best and safest performance. Follow instructions for lubricating.

Remove adjusting keys and wrenches from tool before turning it on.

To reduce the risk of injury from jams, slips or thrown pieces

- **Use Only Recommended Accessories.** Follow the instructions that come with the accessories. The use of improper accessories may cause risk of injury to person.
- Choose the right size and style blade for the material and the type of cutting you plan to do.
- Make sure the blade teeth point downward, toward the table.
- Make sure the blade tension is properly adjusted.
- **Keep Work Area Clean.** Cluttered areas and benches invite accidents. Floor must not be slippery.

To reduce the risk of burns or other fire damage, never use the saw near flammable liquids, vapors or gases.

- **Know Your Saw.** Read and understand the owners manual and labels affixed to the tool. Learn its application and limita-

tions as well as the specific potential hazards peculiar to this tool.

- To reduce the risk of injury from accidental contact with moving parts, don't do layout, assembly, or setup work on the saw while any parts are moving.
- **Reduce the Risk of Accidental Starting.** Make sure switch is "OFF" before plugging saw into a power outlet.

Plan Your Work.

- **Use The Right Tool.** Don't force tool or attachment to do a job it was not designed for.
- Use this scroll saw to cut only wood, woodlike products, plastics and nonferrous metals.

CAUTION: This saw is NOT designed for cutting ferrous metals like iron or steel. When cutting non-ferrous metals (brass, copper and aluminum, etc.), metal shavings can react with wood dust and start a fire. To reduce the risk of fire:

- **Remove all traces of wood dust from on and around the saw.**
- **Remove all metal shavings from on or around the saw before sawing wood again.**

Plan Ahead To Protect Your Eyes, Hands, Face and Ears

Any power saw can throw foreign objects into the eyes. This can cause permanent eye damage. Always wear safety goggles, not glasses, complying with ANSI Z87.1 (or in Canada CSA Z94-3-M88) shown on package. Everyday eyeglasses have only impact resistant lenses. They are not safety glasses. Safety goggles are available at many local retail stores. Glasses or goggles not in compliance with ANSI or CSA could seriously hurt you when they break.



Dress for safety

- Do not wear loose clothing, gloves, neckties or jewelry (rings, wristwatches). They can get caught and draw you into moving parts.
- Wear nonslip footwear.
- Tie back long hair.
- Roll long sleeves above the elbow.

- Noise levels vary widely. To reduce the risk of possible hearing damage, wear ear plugs or muffs when using saw for hours at a time.
- For dusty operations, wear a dust mask along with the safety goggles.

Inspect Your Workpiece.

Make sure there are no nails or foreign objects in the part of the workpiece to be cut.

Use extra caution with large, very small or awkward workpieces

- Never use this tool to finish pieces too small to hold by hand.
- Use extra supports (tables, saw horses, blocks, etc.) for any workpieces large enough to tip when not held down to the table top.
- **Never** use another person as a substitute for a table extension, or as additional support for a workpiece or to help feed, support or pull the workpiece.
- When cutting irregularly shaped workpieces, plan your work so it will not pinch the blade. A piece of molding, for example, must lay flat or be held by a fixture

or jig that will not let it twist, rock or slip while being cut.

- Properly support round material such as dowel rods or tubing. They have a tendency to roll during a cut, causing the blade to “bite”. To avoid this, always use “V” blocks.
- Cut only one workpiece at a time.
- Clear everything except the workpiece and related support devices off the table before turning the saw on.

Plan the way you will hold the workpiece from start to finish.

- Do not hand hold pieces so small that your fingers will go under the blade guard. Use jigs or fixtures to hold the work and keep your hands away from the blade.
- Reduce the Risk of awkward operations and hand positions where a sudden slip could cause fingers or hand to move into the blade.
- **Don’t Overreach.** Keep good footing and balance.
- Keep your face and body to one side of the blade, out of line with a possible thrown piece if the blade should break.

Whenever Saw Is Running

WARNING: Don’t let familiarity (gained from frequent use of your scroll saw) cause a careless mistake. A careless fraction of a second is enough to cause a severe injury.

- Before starting your cut, watch the saw while it runs. If it makes an unfamiliar noise or vibrates excessively, stop immediately. Turn the saw off. Unplug the saw. Do not restart until finding and correcting the problem.
- **Keep Children Away.** Keep all visitors a safe distance from the saw. Make sure bystanders are clear of the saw and workpiece.
- **Don’t Force Tool.** It will do the job better and safer at its designed rate. Feed the workpiece into the saw blade only fast enough to let it cut without bogging down or binding.

Before Freeing Any Jammed Material.

- Turn switch “OFF”
- Wait for all moving parts to stop.
- Unplug the saw.

When backing up the workpiece, the blade may bind in the kerf (cut). This is usually caused by sawdust clogging up the kerf. If this happens:

- Turn switch “OFF”.
- Wait for all moving parts to stop.
- Unplug the saw.
- With a flat blade screwdriver, turn motor shaft by hand. Insert the screwdriver into the slotted end of motor shaft located at the center of the motor housing. Do this while backing up the workpiece.

Before removing loose pieces from the table, turn saw off and wait for all moving parts to stop.

Safety Instructions for Scroll Saw (continued)

Before Leaving the Saw

- Wait for all moving parts to stop.
- **Make Workshop Child-proof.** Unplug the saw. Lock the workshop and ON/OFF

knob on the saw. Store the key away from children and others not qualified to use the tool.

Glossary of Terms for Woodworking

Kerf - the slot cut by the blade.

Leading Edge - the edge of the workpiece which is pushed into the blade first.

Sawblade Path - the area of the workpiece directly in line with and moving toward the sawblade edge.

Bevel - the ability to slant the table to make angle cuts. An angle cutting opera-

tion through the face of the board.

Blade Tooth Set - the distance that the edge of the sawblade tooth is bent (or set) outward from the side of the blade.

Trailing Edge - the workpiece edge last cut by the sawblade.

Workpiece - the item on which the cutting operation is being performed.

Motor Specifications and Electrical Requirements

Power Supply and Motor Specifications

WARNING: To reduce the risk of electrical hazards, fire hazards or damage to the tool, use proper circuit protection. Your tool is wired at the factory for operation using the voltage shown. Connect tool to a power line with the appropriate voltage and a 15-amp branch circuit. Use a 15-amp time delay type fuse or circuit breaker. To reduce the risk of shock or fire, if power cord is worn or cut, or damaged in any way, have it replaced immediately.

For replacement motor and control board, refer to parts list in this manual.

CAUTION: A direct current motor is used in this saw. Changes to the internal wiring will create a fire hazard and may also create a shock hazard.

This machine is equipped with a variable speed motor having the following specifications:

Voltage	110-120
Amperes	1.2
Hertz (Cycles)	60
Phase	Single
RPM	500-1700
Rotation of Shaft	Clockwise

General Electrical Connections

DANGER: To reduce the risk of electrocution:

- Use only identical replacement parts when servicing. Servicing should be performed by a qualified service technician.
- Do not use in rain or where floor is wet.

This tool is intended for indoor residential use only.

WARNING: Do not permit fingers to touch the terminals of plug when installing or removing the plug to or from the outlet.

If power cord is worn or cut, or damaged in any way, have it replaced immediately.

110-120 Volt, 60 Hz. Tool Information

NOTE: The plug supplied on your tool may not fit into the outlet you are planning to use. Your local electrical code may require slightly different power cord plug connections. If these differences exist refer to and make the proper adjustments per your local code before your tool is plugged in and turned on.

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment grounding conductor and a grounding plug, as shown. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

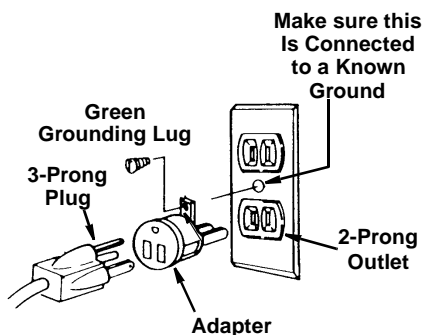
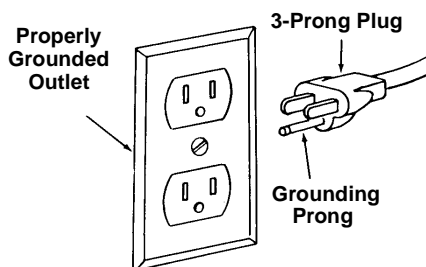
Do not modify the plug provided. If it will not fit the outlet, have the proper outlet installed by a qualified electrician.

A temporary adapter may be used to connect this plug to a 2-pole outlet, as shown, if a properly grounded outlet is not available. This temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. The green colored rigid ear, lug and the like, extension from the adapter must be connected to a permanent ground such as a properly grounded outlet box.

Improper connection of the equipment grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal. If the grounding instructions are not completely understood, or if you are in doubt

as to whether the tool is properly grounded check with a qualified electrician or service personnel.

WARNING: If not properly grounded, this tool can cause an electrical shock, particularly when used in damp locations, in proximity to plumbing, or out of doors. If an electrical shock occurs there is the potential of a secondary hazard, such as your hands contacting the sawblade.



NOTE: The adapter illustrated is for use only if you already have a properly grounded 2-prong outlet.

NOTE: Use of a temporary adapter is not permitted by the Canadian Electrical Code.

Motor Specifications and Electrical Requirements (continued)

Wire Sizes

NOTE: Make sure the proper extension cord is used and is in good condition.

The use of any extension cord will cause some loss of power. To keep this to a minimum and to prevent overheating and motor burn-out, use the table shown to determine the minimum wire size (A.W.G.) extension cord.

Use only 3-wire extension cords which have 3-prong grounding type plugs and 3-pole receptacles which accept the tools plug.

Extension Cord Length	Gauge (A.W.G.)
	110-120V
0-25 Ft. 26-50 Ft.	18 16

Unpacking and Checking Contents

Tools Needed



Combination Square



Medium Standard and
Phillips Screwdriver

Unpacking

WARNING: To reduce the risk of injury, from unexpected starting or electrical shock, do not plug the power cord into a power source outlet during unpacking and assembly. This cord must remain unplugged whenever you are working on the saw.

Your scroll saw is fully assembled and shipped complete in one box.

IMPORTANT: Never lift this saw by the arm which holds the blade or damage will occur to your saw.

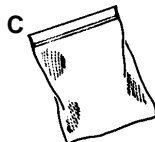
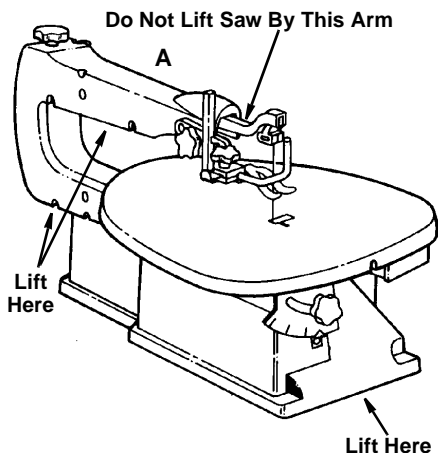
Separate all parts from packaging materials and check each item with illustration and "List of Loose Parts". Make certain all items are accounted for before discarding any packaging material.

NOTE: Before beginning assembly, check that all parts are included. If you are missing any part, do not assemble the saw. Call 1-800-4-RIDGID or E-mail us at info@ridgidwoodworking.com to get the missing part. Sometimes small parts can get lost in packaging material. DO NOT throw away any packaging until saw is put together. Check packaging for missing parts before contacting RIDGID. A complete parts list (Repair Parts) is at the end of the manual. Use the list to identify the number of the missing part.

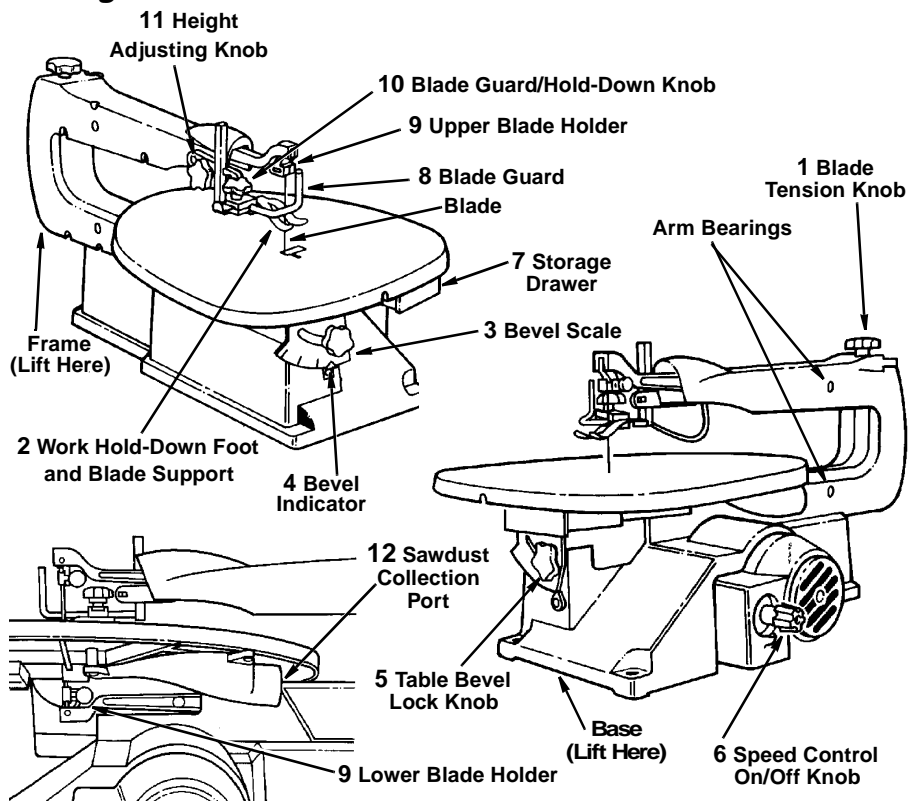
List of Loose Parts

Item	Description	Qty.
A	16" Scroll Saw (Completely Assembled).....	1
B	Owner's Manual	1
C	Loose Parts Bag containing: Blade	1

NOTE: Hardware to mount this scroll saw to a bench is **not** supplied. See mounting instructions for recommended hardware size.



Getting to Know Your Scroll Saw





1. **Blade Tension Knob** - Tightening the knob (clockwise) will increase the tension on the blade. Loosening it (counterclockwise) will decrease the tension.
2. **Work Hold-Down and Blade Support** - Provides added control of workpiece, protection for operator and support for the blade.
3. **Bevel Scale** - Shows angle table is tilted for bevel cutting.
4. **Bevel Indicator** - Points to the approximate angle of the blade in relation to the table top.
5. **Table Bevel Lock Knob** - When tightened, this knob secures table at desired bevel angle. Loosening knob allows the table to tilt up to 45° for bevel cuts.
6. **Speed Control/On-Off Knob** - For speed control setting, refer to the "Choice of Blade and Speed" table. The On-Off knob has a locking feature, **This Feature Is Intended to Help Prevent Unauthorized Use By Children And Others.** (See more on next page.)
7. **Storage Drawer** - For convenient storage of pin and plain blades.
8. **Blade Guard** - Defines area of moving blade.
9. **Blade Holders** - Retain and position the blade.
10. **Blade Guard/Hold Down Knob** - Allows for secure angular positioning of blade guard, work hold down and sawdust blower.
11. **Height Adjustment Knob** - Allows for vertical positioning of blade guard/hold down.
12. **Sawdust Collection Port** - Hook up a wet/dry vac to help control sawdust.

Speed Control/On-Off Knob (continued)

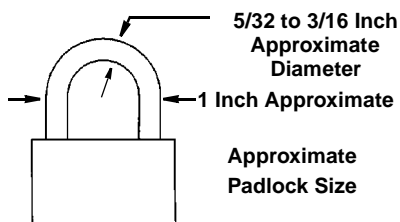
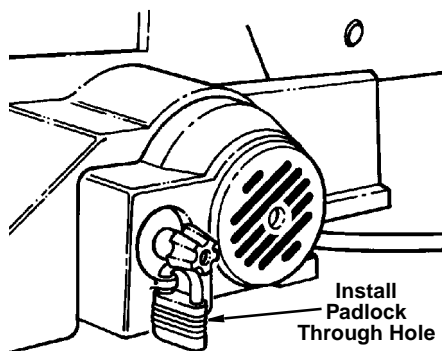
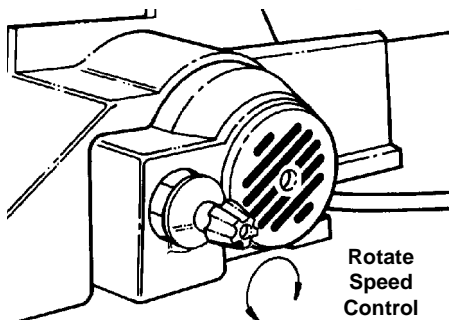
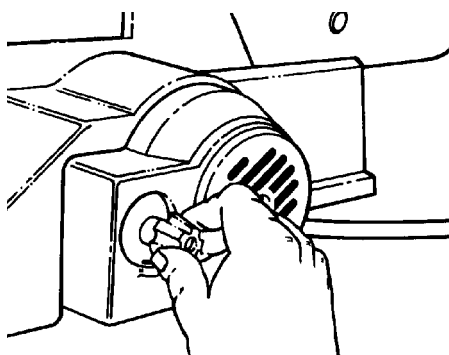
- To turn machine "ON", place fingers on Speed Control/On-Off Knob and pull out.
- To turn machine "OFF", push in Speed Control/On-Off Knob.

WARNING: Never leave the machine unattended until it has come to a complete stop.

The variable speed control may be adjusted to the approximate speeds identified on the control panel. Suggested speeds are identified under "Choice of Blade and Speed". Turn the control knob clockwise  to increase strokes per minute and counterclockwise  to reduce the strokes per minute.

- To lock knob in "OFF" position, install a padlock through the hole below the knob as illustrated, and lock the padlock. (Padlock is not supplied with the saw.)

WARNING: For your own safety, always push the knob "Off" when machine is not in use. Also, in the event of a power failure (all of your lights go out), push knob "Off". "Lockout" your knob with a padlock as shown. This will prevent the machine from starting up again when the power comes back on.

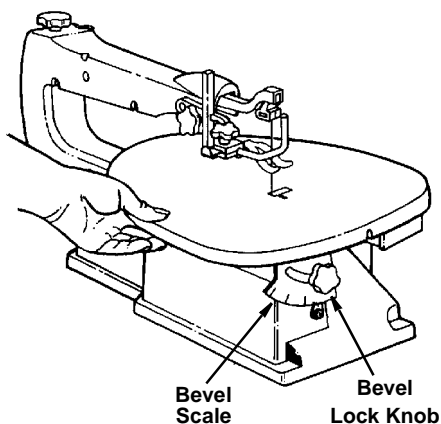


Alignment (Adjustments)

Changing the Table Bevel Angle

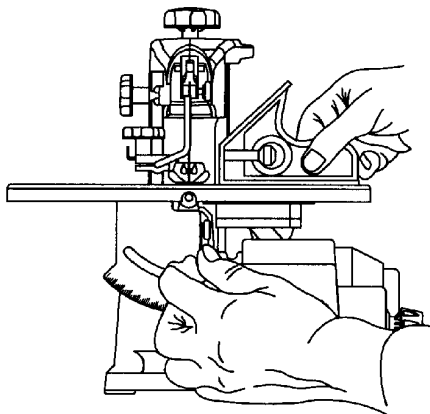
- The scroll saw work table can be tilted to the left for bevel cutting up to 45° from the 0° or horizontal cutting position.
- A bevel scale and indicator are provided under the work table as a convenient reference for setting the approximate table angle for bevel cutting.

NOTE: A scroll saw is a scroll curve cutting tool. It is not intended for making precise angular cuts in wood. The indicator is provided to give approximate angular readings. A precision protractor or square should be used to measure a more precise blade to table angular locations.



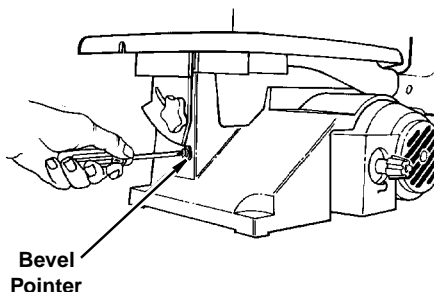
To Align the Bevel Indicator

- Loosen the table bevel lock knob and use a small square to set the table at 90° to the blade.
- When there is no space between the square and the blade, hold table in place and tighten the bevel lock knob. The table should now be approximately 90° to the blade.



-
- Loosen the screw holding the bevel scale pointer and adjust to 0° . Tighten screw.

Remember, the bevel scale is a convenient guide but should not be relied upon for precision.



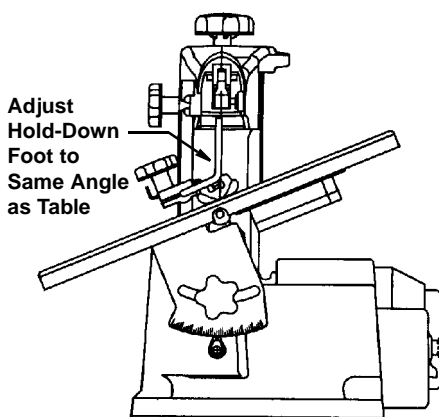
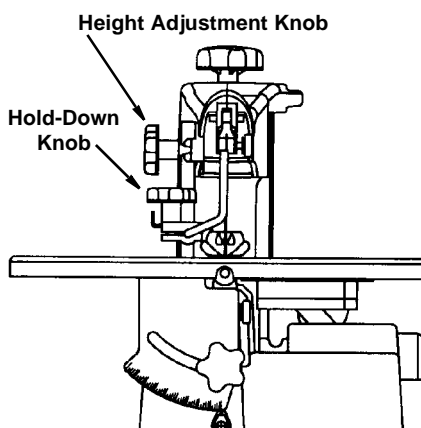
Adjusting Work Hold-down

WARNING: To reduce the risk of injury from accidental starting, always turn switch "OFF" and unplug power cord from outlet before removing or replacing the blade.

The purpose of the work hold-down foot is to hold the work against the table so that it is less likely to lift with the up stroke of the blade. It should lie flat on the workpiece with the front prongs straddling the blade.

1. The work hold-down foot is attached to the blade guard rod. The height of the work hold-down foot is adjusted by loosening the height adjustment knob and moving the guide post up or down. The work hold-down foot is adjusted front to back and left-to-right by loosening the hold-down knob located on the bracket, as illustrated.
2. When the table is tilted, the work hold-down foot can be adjusted by loosening the height adjustment knob and adjusting the foot to the same angle as the table. The work hold-down foot should always be adjusted as close to the blade as possible without touching it and positioned directly on the surface of the workpiece.

NOTE: For most applications tightening the hold down knob with your fingers is adequate.



Over Tensioning Or Under Tensioning Blade

Too much or too little blade tension could cause blades to break rapidly.

The thicker, harder and more abrasive the wood you are cutting, the more blades you will have to use.

Blade breakage is caused by the following:

- Over tension or under tension.
- Twisting or bending the blade.
- Over use - blade life exhausted.
- **Over Aggressive Feeding** of the workpiece into the blade by going too fast.

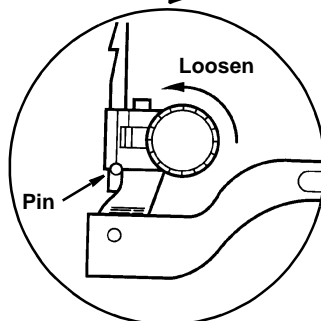
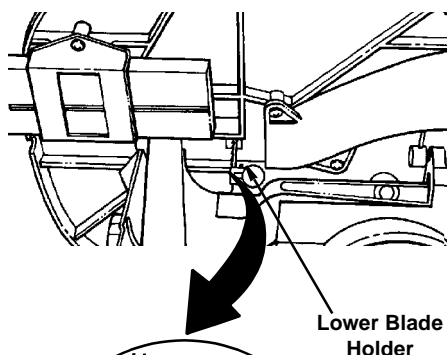
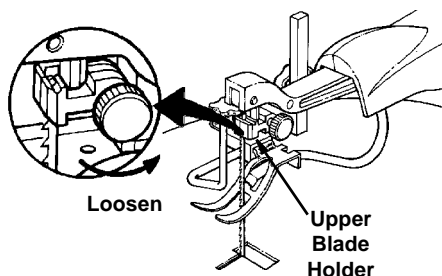
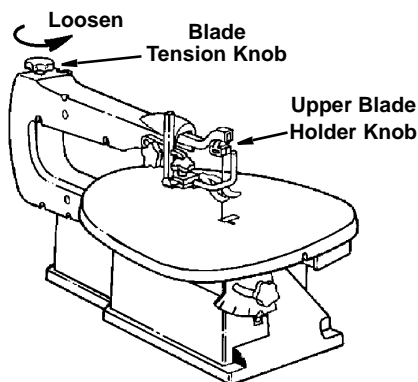
Alignment (Adjustments) (continued)

Removing Pin End Blades

WARNING: To reduce the risk of injury from accidental starting, always turn switch "OFF" and unplug power cord from outlet before removing or replacing the blade.

NOTE: Saw comes with 5" pin end blade installed. If you are going to use 5" plain end blades, refer to the instructions under "Installing Plain End Blades".

- Loosen tension on blade by turning tension knob counterclockwise about three full turns.
- Loosen upper and lower blade holder knobs by turning the blade holder knobs counterclockwise about three full turns. To make lower blade holder access easier, tilt the table to 45°, and raise the arms to the up position using a screwdriver to rotate the motor shaft.
- Remove blade from the lower blade holder by pushing down on the upper arm, releasing the pin end blade from the lower blade holder. Remove blade from the upper blade holder by slightly lifting up on the blade and pulling forward.



Installing 5" Pin End Blades


Pin end blade set up:

- Check that the blade tension knob is loose.
- Check that the upper and lower blade holder knobs are loose. Spread blade holder jaws open using fingers.

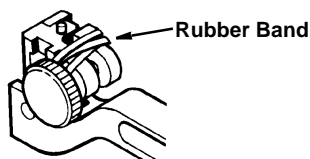
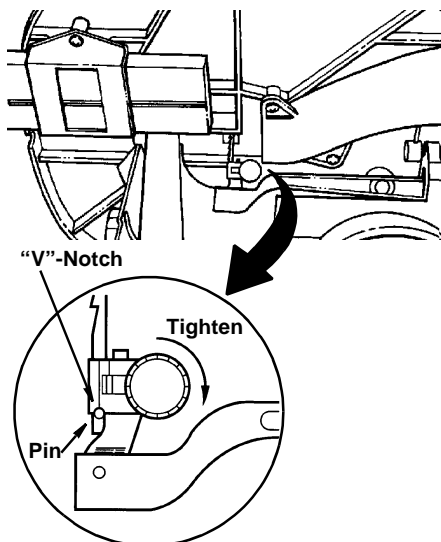
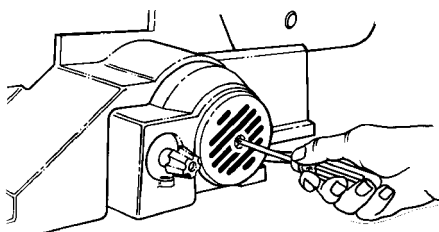
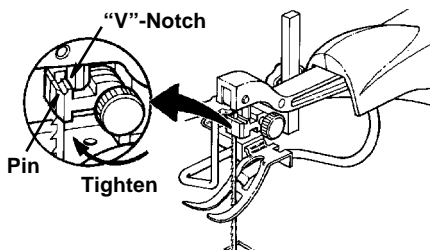
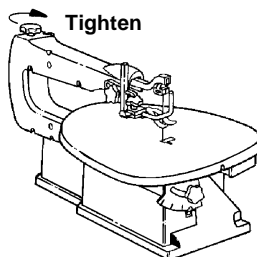
NOTE: A rubber band looped around the back of the blade holder will automatically open the jaws when the knobs are loosened which will make changing blades easier. See illustration below.

- Install the blade through the opening in the table with the teeth pointing down. Engage the pin into the "V" notch of the lower blade holder.
- Pull up on the blade and engage the upper pin in the "V" notch of the upper blade holder.
- Rotate the blade holders until you align the front face of the blade holders with the vertical edge of the blade. Tighten upper and lower blade holder knobs by turning knobs clockwise until the jaws close evenly against the blade.

NOTE: To prevent blade holder damage, do not use pliers to tighten knob.

- Carefully tighten the blade tension by turning the tension knob clockwise  just until you feel the slack in the blade is removed.
- Check to see that the pins are properly located in the V-notch slot. Turn the tension knob an additional two full turns clockwise. This amount of blade tension should do well for most cutting operations and blades. This may vary by one turn depending on blade thickness and blade type.
- Make sure the blade is properly installed. Before applying power, rotate the motor shaft by hand using a screwdriver in the motor shaft slot as shown.



WARNING: To reduce the risk of injury from thrown objects, remove all tools from the saw.

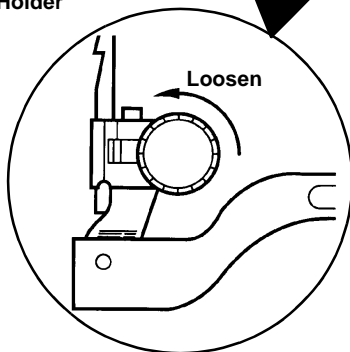
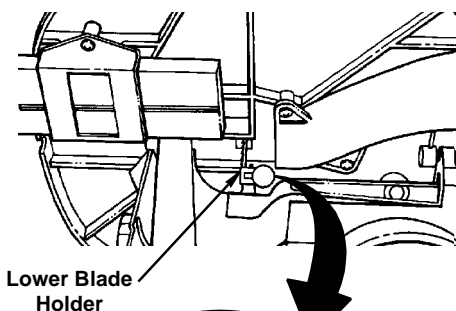
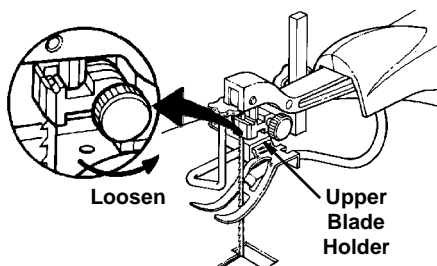
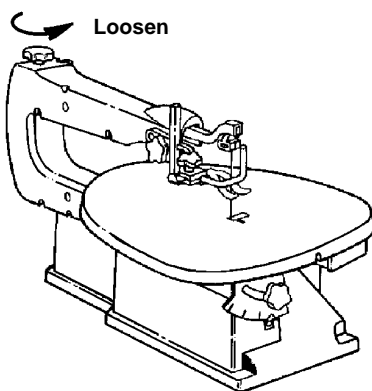


Alignment (Adjustments) (continued)

Removing Plain End Blades

WARNING: To reduce the risk of injury from accidental starting, always turn switch "OFF" and unplug power cord from outlet before removing or replacing the blade.


- Loosen tension on blade by turning tension knob counterclockwise about three full turns. 
- Loosen the upper blade holder by turning the knob on the holder counterclockwise  so the jaws open.
- Remove blade from upper blade holder.
- Loosen the lower blade holder knob in the same way as the upper blade holder. To make lower blade holder access easier, tilt the table to 45° and raise the arms to the up position using a screwdriver to rotate the motor shaft.
- Remove blade from lower blade holder.





Installing 5" Plain End Blades

- Check that the blade tension knob is loose.
- Check that the upper and lower blade holder knobs are loose. Spread blade holder jaws open using fingers.

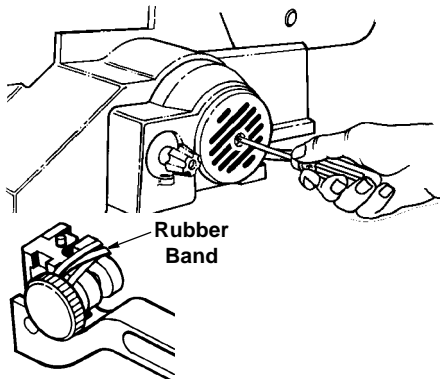
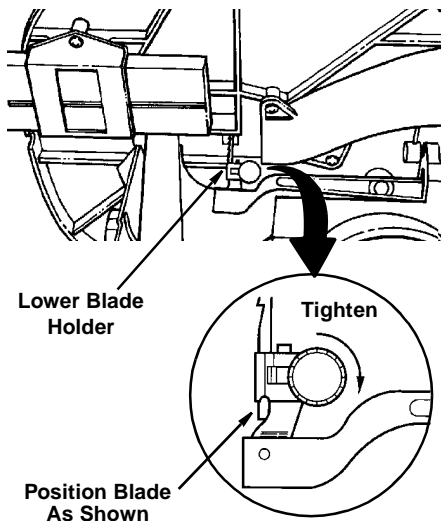
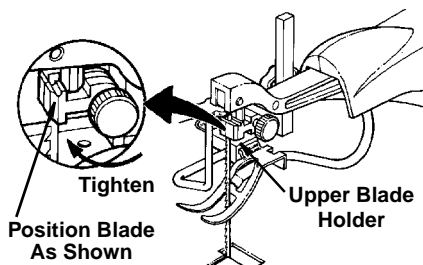
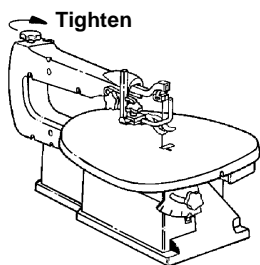
NOTE: A rubber band looped around the back of the blade holder will automatically open the jaws when the knobs are loosened which will make changing blades easier. See illustration below.

- Install the blade through the hole in the table and into the lower blade holder. The blade teeth should point down. Position the blade so that it is straight with the front face of the blade holder and extends beyond the blade holder as shown.
- Tighten the lower blade holder knob by turning the knob clockwise  until the jaws close securely.

NOTE: To maintain blade holder clamping force, keep finger knob threads cleaned and oiled using all purpose household machine (or motor) oil. To prevent blade holder damage, do not use pliers to tighten knob.

- Use the same procedure to install the blade into the upper blade holder. Before tightening the jaws using the upper blade holder knob, adjust the position of the upper blade holder by turning the blade tension knob until the end of the blade is near the top of the blade holder as shown. Tighten the upper blade holder knob by turning the knob clockwise  until the jaws close securely.
- Tighten the blade tension knob clockwise  until the blade is tensioned. The number of turns will be approximately two full turns. This may vary by one turn depending on blade thickness and blade type.
- Make sure the blade is properly installed. Before applying power, rotate the motor shaft by hand using a screwdriver in the motor shaft as shown.

NOTE: To prevent blade holder damage, do not use pliers to tighten knob.



Alignment (Adjustments) (continued)

Dust Blower

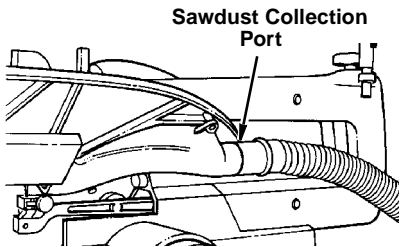
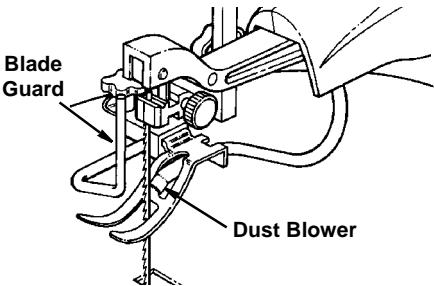
The dust blower will direct air to the most effective point on the cutting line when the hold down is adjusted. No adjustment is necessary to the blower.

Blade Guard

The blade guard will always be positioned parallel to the blade. No adjustment is necessary.

Sawdust Collection Port

The collection port will help to control sawdust. Simply attach a 1-1/4" wet/dry vac hose into the opening.



Mounting the Scroll Saw

Workbench Applications

- When mounting this saw to a workbench a solid wood bench is preferred. A plywood bench will cause noise and vibration to be more noticeable.
- Hardware to mount this saw to a workbench is **not** supplied with the saw. However, we recommend the hardware used be not smaller than the following.

Description	Qty.
-------------	------

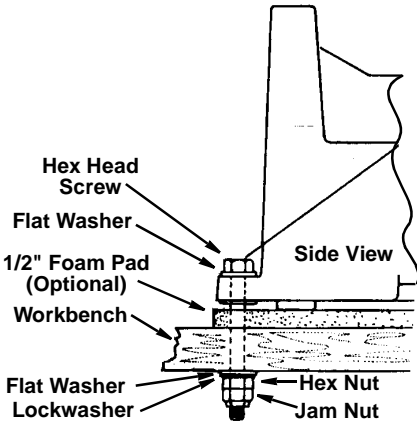
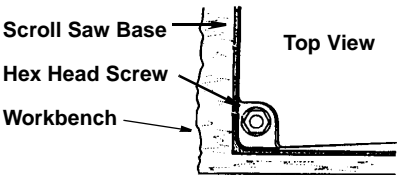
Hex Head Screw,	
1/4-20 x length required	3
Flat Washers, 1/4 I.D.	6
Lock Washers, 1/4 I.D.	3
Hex Nuts, 1/4-20	6

- A soft foam pad to place between your scroll saw and workbench is **not** supplied with the saw. However, we highly recommend the use of such a pad to reduce noise and vibration.

Description	Qty.
-------------	------

Soft foam pad such as carpet	
padding, 24" x 12" x 1/2"	1

Do **NOT** over tighten mounting bolts - leave some cushion in the foam pad for absorbing noise and vibration.



NOTE: Through normal use sawdust accumulates under the unit. Frequently clean sawdust from under the unit to prevent the linkage from binding, which could overload and damage the motor.

Safety Instructions for Basic Saw Operations

Before Each Use

Inspect your saw.

Disconnect The Saw. To reduce the risk of injury from accidental starting, turn the switch "OFF", unplug the saw before changing the setup, removing covers, guards or blade.

Check Damaged Parts. Check for:

- Alignment of moving parts.
- Binding of moving parts.
- Broken parts.
- Stable mounting.
- Any other conditions that may affect the way the saw works.
- If any part is missing, bent or broken in any way, or any electrical parts don't work properly, turn the saw off and unplug the saw. **Replace** damaged, missing or failed parts before using the saw again. **Keep Guard In Place** and in working order.

Maintain Tools With Care. Keep the saw clean for best and safest performance. Follow instructions for lubricating.

Remove adjusting keys and wrenches from tool before turning it on.

To reduce the risk of injury from jams, slips or thrown pieces:

- **Use Only Recommended Accessories.** Follow the instructions that come with the accessories. The use of improper accessories may cause risk of injury to persons.
- Choose the right size and style blade for the material and the type of cutting you plan to do.
- Make sure the blade teeth point downward, toward the table.

- Make sure the blade tension is properly adjusted.
- **Keep Work Area Clean.** Cluttered areas and benches invite accidents. Floor must not be slippery.

To reduce the risk of burns or other fire damage, never use the saw near flammable liquids, vapors or gases.

- **Know Your Saw.** Read and understand the owners manual and labels affixed to the tool. Learn its applications and limitations as well as the specific potential hazards peculiar to this tool.
- To reduce the risk of injury from accidental contact with moving parts, don't do layout, assembly or setup work on the saw while any parts are moving.
- **Reduce the Risk of Accidental Starting.** Make sure switch is "OFF" before plugging saw into a power outlet.

Plan your work.

- **Use The Right Tool.** Don't force tool or attachment to do a job it was not designed to do.
- Use this scroll saw to cut only wood, wood-like products, plastics and nonferrous metals.

CAUTION: This saw is **NOT** designed for cutting ferrous metals like iron or steel. When cutting non-ferrous metals (brass, copper and aluminum, etc.), metal shavings can react with wood dust and start a fire. To reduce the risk of fire:

- Remove all traces of wood dust from inside the saw.
- Remove all traces of metal dust from on or around the saw before sawing wood again.

Plan Ahead To Protect Your Eyes, Hands, Face And Ears

Any power saw can throw foreign objects into the eyes. This can cause permanent eye damage. Wear safety goggles, not glasses complying with ANSI Z87.1 (or in Canada CSA Z94-3-M88) shown on package. Everyday eyeglasses have only

impact resistant lenses. They are not safety glasses. Safety goggles are available at many local retail stores. Glasses or goggles not in compliance with ANSI or CSA could seriously hurt you when they break.

Safety Instructions for Basic Saw Operations (continued)

Dress for safety

- Do not wear loose clothing, gloves, neckties or jewelry (rings, wristwatches). They can get caught and draw you into moving parts.
- Wear non-slip footwear.
- Tie back long hair.
- Roll long sleeves above the elbow.
- Noise levels vary widely. To reduce the risk of possible hearing damage, wear ear plugs or muffs when using saw for hours at a time.
- For dusty operations, wear a dust mask along with the safety goggles.

Inspect your workpiece.

Make sure there are no nails or foreign objects in the part of the workpiece to be cut.

Use extra caution with large, very small or awkward workpieces

- Never use this tool to finish pieces too small to hold by hand.
- Use extra supports (tables, saw horses, blocks, etc.) for any workpiece large enough to tip when not held down to the table top.
- **Never** use another person as a substitute for a table extension, or as additional support for a workpiece or to help feed, support or pull the workpiece.
- When cutting irregularly shaped work-

pieces, plan your work so it will not pinch the blade. A piece of molding, for example, must lay flat or be held by a fixture or jig that will not let it twist, rock or slip while being cut.

- Properly support round material such as dowel rods or tubing. They have a tendency to roll during a cut, causing the blade to "bite". To avoid this, always use a "V" block.
- Cut only one workpiece at a time.
- Clear everything except the workpiece and related support devices off the table before turning the saw on.

Plan the way you will hold the workpiece from start to finish.

- Do not hand hold pieces so small that your fingers will go under the blade guard. Use jigs or fixtures to hold the work and keep your hands away from the blade.
- Reduce the Risk of awkward operations and hand positions where a sudden slip could cause fingers or hand to move into the blade.
- **Don't Overreach.** Keep good footing and balance.
- Keep your face and body to one side of blade, out of line with a possible thrown piece if the blade should break.

Whenever Saw Is Running

WARNING: Don't let familiarity (gained from frequent use of your saw) cause a careless mistake. A careless fraction of a second is enough to cause a severe injury.

- Before starting your cut, watch the saw while it runs. If it makes an unfamiliar noise or vibrates a lot, stop immediately. Turn the saw off. Unplug the saw. Do not restart until finding and correcting the problem.
- **Keep Children Away.** Keep all visitors a safe distance from the saw. Make sure bystanders are clear of the saw and workpiece.
- **Don't Force Tool.** It will do the job better and safer at its designed rate. Feed the workpiece into the saw blade only fast enough to let it cut without bogging down

or binding.

Before freeing any jammed material:

- Turn switch "OFF".
- Wait for all moving parts to stop.
- Unplug saw.

When backing up the workpiece, the blade may bind in the kerf (cut). This is usually caused by sawdust clogging up the kerf. If this happens:

- Turn switch "OFF".
- Wait for all moving parts to stop.
- Unplug saw.
- With a flat blade screwdriver, turn the motor by hand while backing up the workpiece.

Before removing loose pieces from the table, turn saw off and wait for all moving parts to stop.

Before Leaving The Saw

- Wait for all moving parts to stop.
- **Make Workshop Child-proof.** Unplug the saw. Lock the workshop and ON/

OFF knob on the saw. Store the key away from children and others not qualified to use the tool.

Basic Saw Operations

General Instructions

Please, read and understand the following items about your scroll saw before attempting to use the saw.

- The saw does not cut wood by itself. You allow the saw to cut wood by guiding the wood into the blade as it moves.
- The blade teeth cut wood **only** on the down stroke.
- You must guide the wood into the blade slowly because the teeth of the blade are very small and they can only remove wood when they are on the down stroke.
- There is a learning curve for each person who wants to use this saw. During that period of time it is expected that some blades will break until you learn how to use the saw and receive the greatest benefit from the blades.
- Best results are achieved when cutting wood less than one inch thick.
- When cutting wood thicker than one inch the user must guide the wood very, very slowly into the blade and take extra care not to bend or twist the blade while cutting in order to maximize blade life.
- Teeth on scroll saw blades wear out and as such must be replaced frequently for best cutting results. Scroll saw blades generally stay sharp for 1/2 hour to 2 hours of cutting.
- To get accurate cuts, be prepared to compensate for blade's tendency to follow the wood grain as you are cutting.
- This scroll saw is intended to cut wood, wood-like products, plastics and nonferrous metals.
- When choosing a blade to use with your scroll saw, consider the following carefully.
 - Very fine, narrow blades should be used to scroll cut in thin wood 1/4 inch thick or less.
 - To cut wood over 1/4 inch thick, use wider blades.
 - Most blade packages state the size or thickness of wood which that blade is intended to cut, and the radius, size of curve, which can be cut with that blade.
 - Wider blades can't cut curves as tight or small as thinner blades.
 - Narrower blades work well only on thinner wood material.
- This saw uses 5 inch long pin and plain end type blades only.
- Blades wear faster when cutting plywood, which is very abrasive; when sawing wood which is thicker than the 7/8 inch blade stroke; and when sawing hardwood, or when side pressure is placed on the blade.

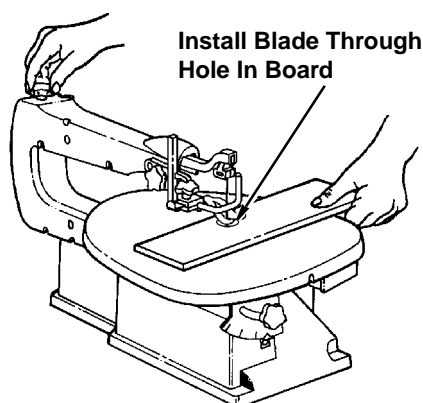
Making Interior Scroll Cuts

- One of the features of this saw is that it can be used to make scroll cuts on the interior of a board without breaking or cutting into the outline or perimeter of the board.
- To make interior cuts in a board, remove the scroll saw blade as explained in the Assembly section.
- Drill a 1/4" or larger hole in the board you will use to make interior cuts.
- Place the board on the saw table with the hole in the board over the access hole in the table.
- Install the blade through the hole in the board and adjust blade tension.

WARNING: To reduce the risk of injury from accidental starting, always turn switch "OFF" and remove plug from power source outlet before removing or replacing the blade.

Basic Saw Operations (continued)

- When finished making the interior scroll cuts, simply remove the blade from the blade holders, as described in the Assembly section, and remove the board from the table.



Choice of Blade and Speed

Your scroll saw accepts a wide variety of 5" plain end and pin end blades. As a general guide:

- Use a finer tooth blade for cutting thin workpiece, when a smoother cut is required for hard materials or when using slow saw speeds.
- Use a coarser tooth blade for cutting thicker workpieces, when making straight cuts, for medium to soft materi-

als or when using faster saw speeds.

- Use a blade that will have at least 2 teeth in the material at all times.
- Use thin, narrow blades for tight radius work, and thick, wide blades for large curves and straight cuts.

Listed below are examples of some blades and their intended uses:

Pin and Plain end Blades

Teeth/ Inch	Width	Thickness	Speed	Application
20 15	.029" .110"	.012" .018"	500-600	Tight radius work; 3/32" to 1/8" wood veneer, wood, bone, fiber, plastics, non-ferrous metals, etc.
12.5	.038"	.016"	600-1200	Close radius cutting in materials 3/32" to 1/2" thick. Good for hard and soft wood, bone, horn, plastics, etc.
11.5 10	.053" .110"	.018" .018"	1200-1700	For hard and soft woods and woodlike products 3/16" and up.

Maintenance

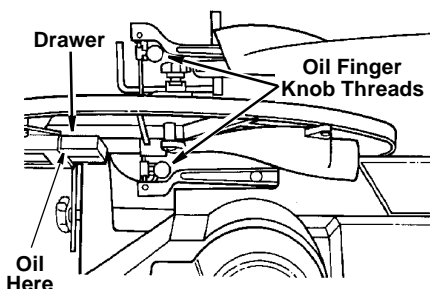
WARNING: For your own safety, push control knob "OFF" and remove plug from power source outlet before maintaining or lubricating your saw.

General

An occasional coat of paste wax on the work table will allow the wood being cut to glide smoothly across the work surface.

Drawer - Apply oil safe for plastic to drawer and guide as necessary.

To maintain blade holder clamping force, keep finger knob threads cleaned and oiled using all purpose household machine (or motor) oil.



Motor/Electrical

The motor bearings are permanently lubricated and require no further lubrication.

Do not attempt to oil the motor bearings or service the motor internal parts.

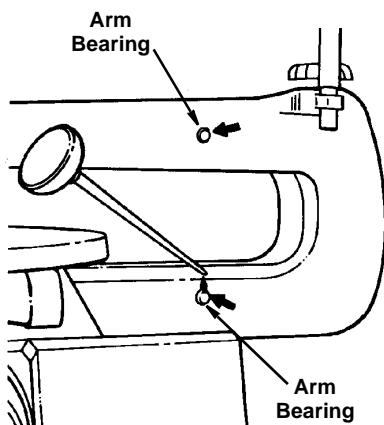
WARNING: If the power cord is worn, cut or damaged in any way, have it replaced immediately.

WARNING: To reduce the risk of fire or electrocution, reassemble electric parts with only approved service parts. Reassemble exactly as originally assembled.

Arm Bearings

Lubricate the arm bearings after 10 hours of use. Re-oil after every 50 hours of use or whenever there is a squeak coming from the bearings.

- Turn saw on its side.
- Squirt a generous amount of SAE 30 oil or household machine oil around the shaft end and bronze bearing.
- Let the oil soak in overnight in this position.
- Next day repeat the above procedure for the opposite side of the saw.



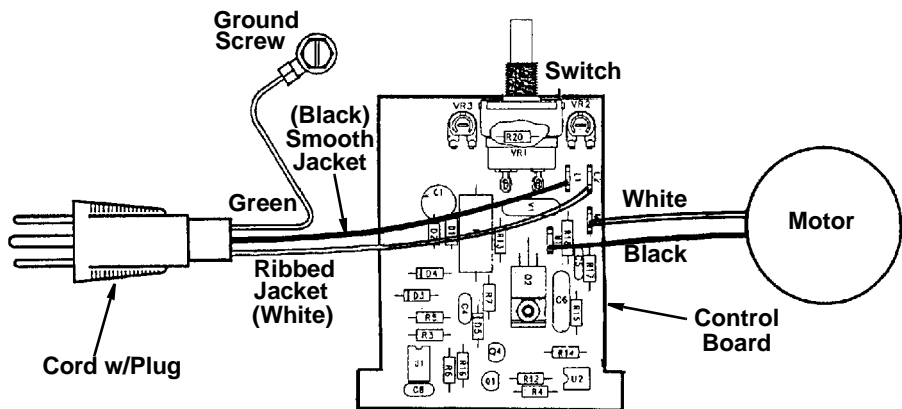
Troubleshooting

WARNING: For your own safety, turn switch “OFF”, and remove plug from power source outlet before troubleshooting your scroll saw.

Problem	Probable Cause	Remedy Schedule
Breaking Blades.	<ol style="list-style-type: none">1. Wrong tension2. Over working blade.3. Wrong blade application.4. Twisting blade in wood.	<ol style="list-style-type: none">1. Adjust blade tension.2. Reduce feed rate.3. Use narrow blades for cutting thin wood, wide blades for thicker wood.4. Avoid side pressure on blade.
Plain end blade slips within blade clamp	<ol style="list-style-type: none">1. Blade clamp not tightened2. Dirty finger knob threads.	<ol style="list-style-type: none">1. Tighten blade clamp.2. Clean and oil threads.
Motor will not run.	<ol style="list-style-type: none">1. Damaged cord or plug.2. Damaged motor or control board.	<ol style="list-style-type: none">1. Replace damaged parts before using saw again.2. Consult Authorized Service. Any attempt to repair this motor or control board may create a HAZARD unless repair is done by a qualified service technician.
Vibration NOTE: There will always be some vibration present when the saw is running because of the blade and arm movement.	<ol style="list-style-type: none">1. Improper mounting of the saw.2. Unsuitable mounting surface.3. Loose table4. Loose motor mounting.	<ol style="list-style-type: none">1. See mounting instructions in this manual for proper mounting technique.2. The heavier your workbench is, the less vibration will occur. A plywood workbench will not be as good a work surface as the same size solid lumber. Use common sense in choosing a mounting surface.3. Tighten table lock knob.4. Tighten motor mounting screws.

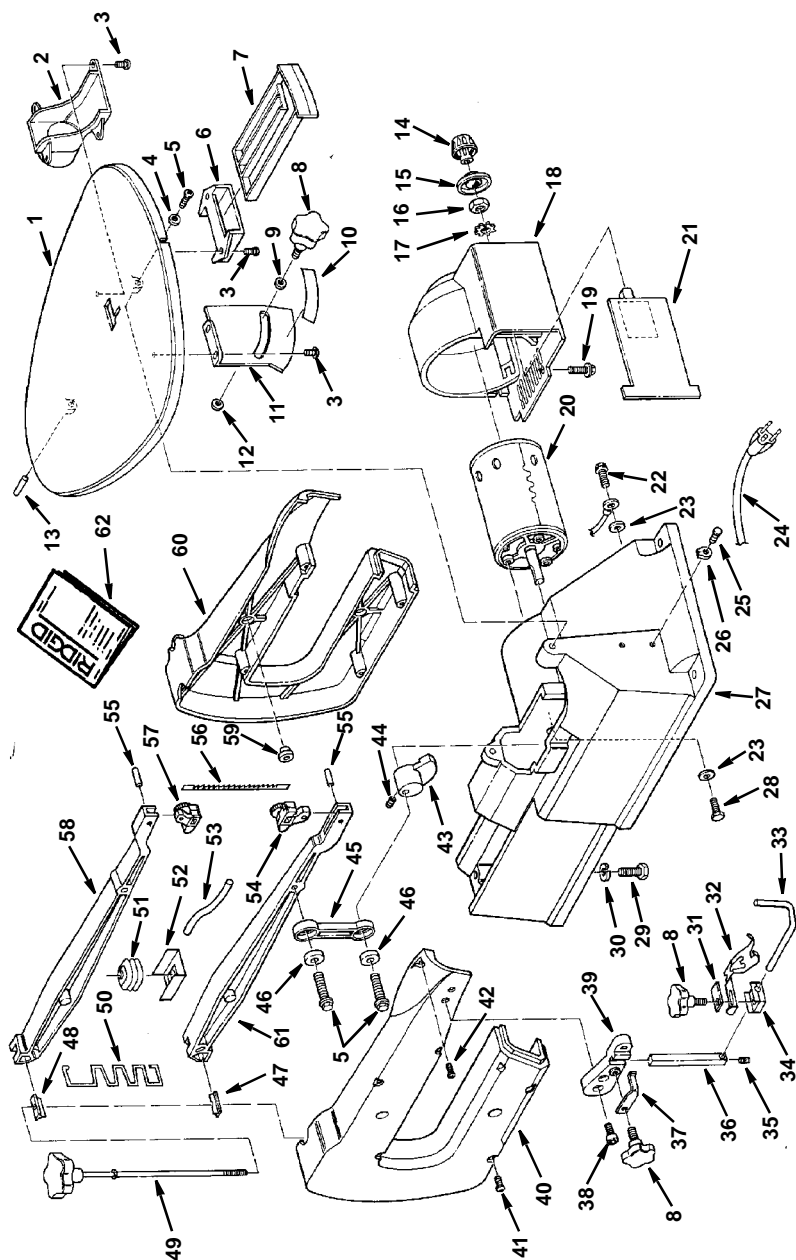
Wiring Diagram

WARNING: To reduce the risk of fire or shock, use only recommended service parts and reassemble exactly as originally assembled.



RIDGID parts are available on-line at www.ridgidparts.com

Parts List For RIDGID 16" Variable Speed Scroll Saw Model No. SS16500



Parts List for RIDGID 16" Variable Speed Scroll Saw Model No. SS16500

Always Order By Part Number-Not By Key Number

Repair Parts
RIDGID parts are available on-line at www.ridgidparts.com

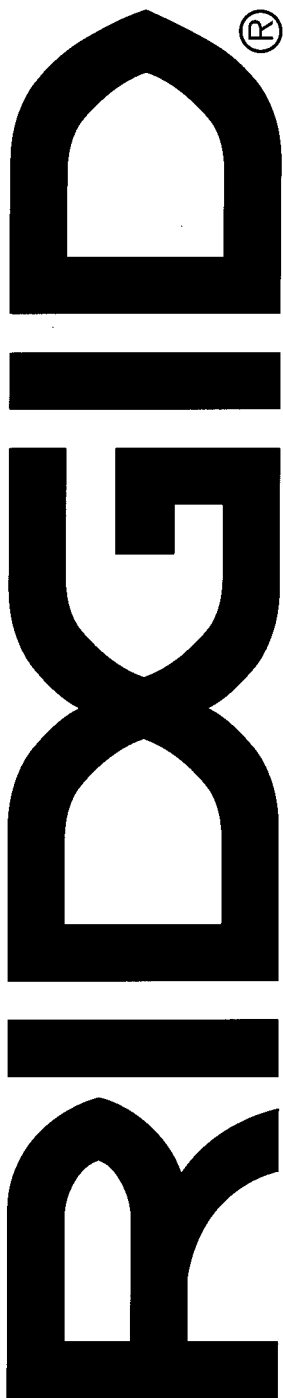
Key No.	Part No.	Description
1	826177	Table
2	826257	Chute Sawdust
3	*	Screw Pan Hd Ty "T" 10-32 x 3/8
4	821532	Washer Curved Spring
5	821521	Screw Hex Wash Shldr Ty "T" 1/4-20 x 1/2
6	823808-1	Guide Drawer
7	826254	Drawer
8	826252	Knob Bevel
9	*	Washer 17/64 x 5/8 x 1/16
10	821510	Label Bevel Scale
11	826256	Scale Bevel
12	*	Washer 17/64 x 3/4 x 7/64
13	60326	Pin Roll .219 x 3/4
14	826298	Knob On/Off
15	826299	Guard Finger
16	*	Nut Hex Jam 3/8-32
17	*	Lockwasher 3/8
18	826201	Housing Motor
19	822016	Screw Hex Washer Hd Ty "T" #10 x 5/8
20	823634	• Motor
21	826867	Board, Control
22	823168	Screw Hex Washer Hd Ty "T" 10-32x3/8 Green
23	*	Lockwasher #10
24	823801-1	Cord w/Plug
25	809492	Screw Pan Hd Ty "T" 8-32 x 5/16
26	826057	Pointer
27	826136	Base
28	813094-1	Screw Hex Hd 10-32 x 7/8
29	*	Screw Hex Hd 1/4-20 x 1-1/2
30	*	Lockwasher 1/4
31	823830-1	Support Plate

Key No.	Part No.	Description
32	823827-1	Spring Hold Down
33	823806	Guard, Blade
34	823800-1	Clamp Hold Down
35	*	Screw, Soc Set, 10-32 x 3/16
36	823828	Support Bar
37	826255	Plate Clip
38	*	Screw Soc Hd Cap 1/4-20 x 3/8
39	826175	Support, Hold Down
40	826198	Housing Left
41	66072	Screw Pan Hd Ty "T" 8-32 x 1-3/8
42	*	Screw Pan Hd Ty "T" 8-32 x 1/2
43	823802	Coupling Eccentric
44	*	Screw Soc Set 1/4-20 x 3/8
45	826171	Link
46	815200	Bearing Ball
47	821529	Nut, Tension
48	821530	Wedge, Tension
49	826758	Knob, Tension
50	821531	Spring Tension
51	823791-1	Bellows
52	824646	Cover Bellows
53	823812	Hose
54	823810-1	Holder Blade Lower
55	*	Pin Roll 3/16 x 9/16
56	*	† Blade
57	823811-1	Holder Blade Upper
58	826278	Arm Upper
59	821416	Bearing Flanged
60	826199	Housing Right
61	826277	Arm Lower
62	SP6141	Owner's Manual

* Standard hardware item - may be purchased locally

† These replacement parts are available where you purchased your scroll saw.

• Any attempt to repair this motor may create a hazard unless repair is done by a qualified service technician. Repair service is available at your nearest Authorized Service Center.



Lifetime Warranty On RIDGID Tools

The RIDGID REPUTATION is the result of the consistent product quality and years of pride in workmanship. Rigorous checks and controls from raw materials to packaged products insure product confidence widely accepted as the mark of the professional trades. Therefore, RIDGID covers its products with a LIFETIME WARRANTY against defects in material or workmanship. To take advantage of this warranty, the complete product must be delivered prepaid to any RIDGID AUTHORIZED SERVICE CENTER. Obviously, failures due to misuse, abuse or normal wear and tear are not covered by this warranty. NO OTHER WARRANTY, WRITTEN OR ORAL, APPLIES. No employee, agent, dealer or other person is authorized to give any warranty on behalf of RIDGID Power Tools, Emerson Electric Co. Warranted products will be repaired or replaced, at our option, at no charge to you and returned to you via prepaid transportation. Such replacement or repair is the exclusive remedy available from RIDGID Power Tools, Emerson Electric Co. Emerson Electric Co. is not liable for damage of any sort, including incidental and consequential damages. Some U.S.A. states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

QUESTIONS OR COMMENTS?
CALL 1-800-4-RIDGID
www.ridgidwoodworking.com



RIDGID Power Tools
Emerson Electric Co.